

SINC - LINK

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SINC LINK

Attention: SINC-LINK Editor
TORONTO TIMEX-SINCLAIR USERS CLUB
P.O. Box 7274 Stn. A, Toronto M5W 1X9

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EXECUTIVE OFFICERS

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NEWS EDITOR:	Sean Wenzel (416) 699 0714

TORONTO TIMEX - SINCLAIR USERS CLUB

P. O. Box 7274 Stn. A Toronto, Ont., M5W 1X9
Canada

NOTES

PRESIDENT'S MESSAGE

Our newsletter editor, Sean Wenzel, tells me that he is going to have a bulletin board in operation as soon as he gets a telephone line put in. He expects this will take about a week or ten days. He also assures me that there will be a section devoted to Timex enthusiasts. I find this to be good news for all you Timex computer owners, especially those in the Toronto area. You might call Sean at 699 0714 to check whether his board is in operation, hours, etc.

I hope that we have an article in the next newsletter, giving details of accessing it, etc., so that all modem owners out there who are just as mystified as myself about bulletin boards can get our feet wet.

You will notice that we have quite a few articles on the LARKEN disk system in this issue. I guess that either Larken owners are just the most active section in the club, or else the most communicative! All owners should be so enthusiastic! Certainly there is a lot of programming activity going on in this particular area. I continue to hear of new LARKEN users.

Our paper library has a lot of material in that many members are unaware of. Primarily this is ZX81 stuff, but there is a lot of things that are of interest to TS2068 owners. How about the newsletters from other clubs. There are about 25 binders of newsletters covering the past 18 months, that are dying to be read. And as a note, don't forget to bring them back to the club the following meeting.

I have also put together several copies of material that I have accumulated. They are under topics such as Modems, Larken system, and Hacking. Ask for the loan of them.

We are gradually getting back onto schedule with our newsletter. The next issue should be out about the second meeting of October, and the final issue for the year about the first meeting in December.

Yours in computing
George Chambers

BBS SPOTLIGHT

If you want to try out your modem why not call the BBS called FACTLAND. This is a far out board which offers various randomly selected facts, some of which are not particularly factual. The number to call is (416) 481 7889. It is a 24 hour board so you may call any time. You may find the line busy at times.

This month I've a couple of hardware tips that were provided by Jim Lewis that will be of interest to 2068 owners. If you have a 2068 with a wired in Spectrum ROM and have had some problems with the computer initializing on the Spectrum ROM and had to turn the machine on and off several times, don't worry any more because here's the fix. You must replace the 1 mfd. capacitor marked C-21, located in the lower central area of the board with a 10 mfd. capacitor, and the 2068 will initialize positively in both modes.

The 12 volt regulator, located in the upper left side of the board runs on the warm side. For cooler running add one of those clip-on heat sinks to the U-8. Jim also found an error in the schematic for the 2068. The ROMCS signal from the SCLD goes to the W1 jumper (not the W2 indicated on the schematic) and the MREQ signal goes to the W2 jumper. Apparently the signals are reversed on the diagram.

From the "RAMTOP", the newsletter of the Greater Cleveland Sinclair Users Group.

TO ELIMINATE BLANK SPACES WHEN USING STRINGS IN A LINE OF TEXT

When an array is created to hold data the length of each string is fixed. When the array is printed the whole string will be printed even though the string is only partially filled. To demonstrate try this:

```
10 DIM A$(1,8)
20 LET A$(1)=" MARCH"
30 PRINT "a";A$;"a"
```

You will see many spaces between the word MARCH and the last "a". The subroutine below, when called up just prior to printout, chops off the unwanted spaces at the end of the string that is being called up.

```
90 DIM A$(12,8)
100 INPUT X
110 GOSUB 6000
120 PRINT A$(X, TO A); "is the month of your
    birthday"
130 STOP
1000 FOR A= LEN A$(X) TO 1 STEP -1
1010 IF A$(X,A) = " " THEN RETURN
1020 NEXT A
1030 RETURN
2000 LET A$(1)=" JANUARY"
2010 LET A$(2)=" FEBRUARY"
2020 LET A$(3)=" MARCH"
```

•
etc

SINCBITS

Ian Robertson

CompuServe 72167,3401

UPDATES: Are you interested in updating to or obtaining a 96tpi 80 track 3589 disk drive? Then have I got good news for you! Central Sales Co., 314 N. Central Ave, Duluth, MN 55807, are selling the discontinued (and probably used/refurbished) Control Data Corp. 5.25" full sized drives for \$39.95 each, or \$70.00 for two. Add 10% to the order for shipping and handling. They do not take plastic. I just received one, that I bought for a spare, and it is the quietest drive that I own. Definitely worth considering if your drive interface can handle quad drive (800k). Now on to an item that everybody can use. In the May/June issue of SINCUS NEWS, on page 5, is an article by Hal Sohn, describing a "cassette signal booster". It consists of 4 parts and works on all Sinclair/Time computers. I built this device and cannot recommend it too highly. Lets face it, we all have cassettes that we can barely load, and some that will not load at all. This could be the answer. The parts are available at your local Radio Shack store and total cost is under \$5.00. This issue of Sincus News is in our club exchange library. Recommended reading. In my last column I mentioned a Tasword 2/Tasword 3 utility called "Qualitas", sold by Seven Stars Publishing (U.K.). Unfortunately I will not be buying this one, as it only works with Epson RX-80 and compatibles that have quad-density graphics. It is not for our humble NT-80's. Too bad, for a while there I thought it possible to keep my existing printer and have HQ printouts, and not have to invest in a new printer. Yet another casualty in our TS world, the SAF User Group, Leslie MI, will cease to exist when they repay their members unfilled subscriptions. A very honourable task, they are to be congratulated for this approach. How many clubs, companies, etc., leave their members/customers high and dry.

TS2068: I use a Tasman centronics printer interface with my 2068. It does not print out while in the Spectrum mode. This has caused me some consternation during my TS years, as I never did figure out the pokes required to perform this. Now this problem is solved. I bought the "Foote Print Centronics Interface" from Foote Software, P.O. Box 14655, Gainesville, FL 32604-4655. The cost was \$45.00, which includes cable and software (Zebra Zprint-80). If your software has the printer driver built in, this interface will print out using the Tasman and the Aerco, and the Tasman works with the 2068 in Spectrum mode. This CPI plugs into the 2068 cartridge port and has an eprom socket on board. I use Doug Dewey's "Spectrum Emulator" 16k eprom in this socket (it has an "ON/OFF" switch) and can report that everything works (so far). All things considered, this is a very powerful and reasonably priced package. The Zebra software allows you to print a grey scale copy to about a dozen different full sized printers. See the Zebra catalogue for details. Now to bring you up to date on the John Oliver Disk Drive Interface and the ongoing saga of "how is the Ray Kingsley DOS coming along". John has a preliminary copy of the "OK DOS" from Ray, but it is not yet ready for sale. Current plans call for the OK DOS to share half of a 27128 (16k) eprom along with JLO SAFE DOS. A small switch would allow switching between the two systems. John now has v1.32 of SAFE DOS available. This is

his final planned edition. He may eventually bring out a v2.0, but it would be radically different than the present v1.32. Time will tell. And now for something completely different. In the latest issue of Tom Woods "Computer Updates (vol 3, No.3) there is a comprehensive article entitled "How to connect an IBM keyboard to your Timex 2068". The keyboard mentioned is a Keytronics Model 5151, which I see advertised in "Computer Shopper" for \$89.98 (US). In addition to the keyboard you require one of Tom's Experimenter's I/O ports and a few electronic components. Does this fire your imagination? The hardware also works with the TS1000/TS1500. The article details all software pokes required for the 2068.

SPECTRUM: Although I have never been "really" interested in computer games, I must admit that since I bought a colour monitor, my appreciation has increased. What I am really trying to say is "If you own a Spectrum (or emulated Spectrum) then you had better like games, because games account for at least 95% of the software published". In addition to the number of games on the market, all Sinclair dedicated magazines are becoming more games oriented. For example, the Aug. issue of "Crash" has 122 pages, of which 6 are not games oriented. To be fair, the current generation of Spectrum games is so much better, both from a conceptual point of view and from an artistic/graphics viewpoint. If you remember such games as "Transylvania Tower" and "3D Tanks", you will know what I mean. The new generation, exemplified by "Tomahawk", "Bobby Bearing" and the likes of "Pyracurse" are truly ingenious and as such deserve to be purchased and not pirated. The few "serious" Spectrum programs are usually GREAT. Art Studio coupled with the AMX mouse is such an example. What a combination, and it even allows you to access microdrives or the Kempston KDOS disk system (if you have the extended version of the program). The AMX mouse comes with software which allows the user to incorporate pull down menus in their own software. This column is being typed on my beloved Spectrum Plus again, after being repaired in the UK. Now for the "repair saga". I sent the computer to Video Vault Ltd., 140 High St., Glossop, Derbyshire, U.K. on June 30th. It was returned to me July 16th. What great service you say! Well to start with, the keyboard was DOA. Now as luck would have it, I am probably one of the 4 people in the universe who carries spare parts for the Speccy, and I had a spare keyboard membrane. After opening the computer (voiding the repair warranty) and replacing the membrane, I was once again in business. A subsequent letter to Video Vault requesting an answer to "how can a repaired and tested computer not work upon receipt" has not been answered to date. Although the original problem was repaired, I do not think their Quality Control is good enough for future business. Stay away from them! They also omitted to insert 4 of the 9 screws required to hold the Speccy together. If anyone is interested in buying parts for any Sinclair computer products I have the latest issue of the "P.V. Tubes" catalogue. This company has proven to be a very reliable, moderately priced supplier, who delivers within 2 to 4 weeks from the U.K. I also have the latest "Thoughts & Crosses" catalogue. Final item - sometimes it is a good idea to be the first kid on the block with the latest item, and then again sometimes it is better to order the same item after all the bugs are gone. I waited for some time before ordering an AMX Mouse. Lo and behold I received their latest version, which is much more ergonomic than the original.

LARKEN DISK COPIER UTILITY
by George Chambers

Although the LARKEN DD system has a 2-drive option many users will doubtless make do with a single drive. This utility listed here is designed to facilitate the use of the COPY function of the LARKEN DOS when using a single drive.

Essentially the program makes use of the Directory on track 0 of the disk to list each program on the disk in turn, to ask if you wish to copy it, and then do so; requiring only that you switch disks when prompted. No entering of COPY commands is required.

Some features of this program are worth mentioning, since they could provide ideas for use in other LARKEN DD applications.

-The program is saved within the listing at line 9900, thus it starts automatically, and displays instructions contained in lines 9910 to 9980. Because this utility must fit under the LDOS located at address 28000, these lines are deleted before loading LDOS28 at line 10. Also, to save space the program makes extensive use of the VAL function.

-The POKE in line 25 is used to cause the LDOS28 to return to the BASIC program after executing a COPY command at line 140, rather than returning with a LDOS cursor as it would normally do.

-The POKE at line 145 is designed to foil the "scroll?" function, which would otherwise appear periodically as the screen scrolled upwards.

-The FOR/NEXT routine in lines 30-50 is used to scan the Directory which has been placed there by line 20. Line 40 is used to identify the start of a program name. The 255 marks a program name slot in the directory. If a name slot contains no program name, or if a program has been deleted from the disk, the address following the "255" will contain a value "254". If the FOR/NEXT loop detects a value of "255" in an address, and other than a "254" in the next address it correctly assumes that a valid program name is coming up, and does a GOSUB to line 100.

-The FOR/NEXT loop in lines 100-130 picks the program name out of the Directory and places it into the a\$ used in line 140.

-Because of the presence of the Directory in the 61000 region of memory the size of the program that can be copied with this routine is 16 tracks, or about 31360 bytes. Lines 132/135 take care of this by displaying an appropriate message, and moving on to the next program.

-After the last program on the Directory has been handled the utility will appear to have hung up. This is not so. The search for a program name is continuing; however because this utility is in BASIC it takes a while to search the balance of the Directory until it finds value "250", indicating the end of the Directory has been reached (see line 45).

```

1 REM    DISK COPIER UTILITY
2 REM
3 REM    by George Chambers
4 REM    May 1986
5 REM
6 REM
7 REM
10 CLEAR VAL "27999": OUT VAL "
84",VAL "64": RANDOMIZE USR VAL
"63488": REM load "LDOS28.C5"
15 PRINT AT VAL "8",NOT PI;"Ins
ert disk to be copied and",,
press any key": PAUSE 0: CLS
20 PRINT USR VAL "63488": REM d
ire
25 CLS : POKE VAL "30700",NOT P
I
30 FOR n=VAL "61608" TO VAL "63
440"
40 IF PEEK n=VAL "255" AND PEEK
(n+PI/PI) VAL "254" THEN GO S
UB VAL "100"
45 IF PEEK n=VAL "250" THEN PR
INT '"End of Disk Directory": ST
OP
50 NEXT n
100 LET a$=""
105 LET z=NOT PI
110 FOR y=PI/PI TO (VAL "9")
113 IF PEEK (n+PI/PI)=VAL "46" T
HEN LET z=PI/PI
115 IF PEEK (n+PI/PI)=VAL "32" A
ND z=PI/PI THEN LET a$(y)="":
LET y=VAL "9": GO TO VAL "130"
120 LET a$(y)=CHR$ PEEK (n+PI/PI
): PRINT INK PI/PI;CHR$ PEEK (n
+PI/PI); INK NOT PI;
125 LET n=n+PI/PI
130 NEXT y
132 LET z=NOT PI: FOR q=(n+PI/PI
) TO (n+VAL "16"): IF PEEK q=VAL
"249" THEN LET z=PI/PI: LET q=
(n+VAL "16")
133 NEXT q
135 IF z=NOT PI THEN PRINT " Th
is program too long to copy": RE
TURN
137 PRINT " Copy? (y/n)": PAUSE
NOT PI: IF INKEY$="n" THEN RETU
RN
140 RANDOMIZE USR VAL "28000": R
EM copy a$
145 POKE VAL "23692",VAL "255"
150 PRINT "Insert original""Rea
dy ?": PAUSE NOT PI: RETURN
9900 RANDOMIZE USR VAL "63488": R
EM save "copy.B1"
9910 CLS : LIST VAL "9920": PAUSE
NOT PI: DELETE VAL "9920",VAL "
9980": RUN

```



```

9920 REM      DISK COPIER

9930      REM Use this copier to
      copy programs using one drive.

9940      REM When a DOS prompt
      appears after Directory,
      enter the command "exit"

9950 REM Switch disks on prompt

9960 REM When a program is found
      that is larger than 14 blocks
      it will not be copied. You
      will be notified; the copier
      will move to the next program.

9970 REM There will be a delay
      as the copier searches for
      the end-of-directory marker.

9980 REM Press any key to start

```

OVERLOOKED LOGICALS

If you would like to speed up your BASIC programs and increase the available storage, you might consider coding with logical expressions. These are often overlooked program statements that can accomplish the above, and also clean up many GOTO's that often tend to clutter up a program listing.

A logical has two conditions; true or false, which are usually, but not always, represented by the values "0" and "1", respectively, as in Sinclair computers.

An example of a logical assignment statement might be.

```
300 LET A = (X>=10)
```

If the value of 'X' is equal to or exceeds 10 then the 'A' will have a value of '1'. For 'X' less than 10, the value of 'A' will be '0'.

A logical expression in brackets may be added to and/or multiplied by other values. For example, with the statement:

```
300 LET A = 100 * (X>=10)+15
```

Here 'A' takes on the value of 115 when the logical expression is true and 15 when it is false.

To illustrate some of the applications of this the following code was borrowed from "TIMEX/SINCLAIR 1000: ASTRONOMY", A Sinclair version of "CELESTIAL BASIC" by Eric Burgess, in which day-month calculations are made:

```

350 IF M=2 THEN LET D=31
360 IF M=3 THEN LET D=59
:
450 IF M=12 THEN LET D=334

```

Here, eleven statements must be individually interpreted and evaluated by the computer. The more statements, the longer the program takes to arrive at the results. If the code is repetitively looped, the time is further magnified. Hence if several statements can be combined, fewer interpretations are required, decreasing the program execution time. To illustrate, the following single statement can replace the above code and will execute in about 30% of the time.

```
350 LET A=31*(M=2)+59*(M=3)+...+334*(M=12)
```

At this point in the program, M has an integer value of between 2 and 12. Since it can only have one of these values, the only one logical will be true. The appropriate value will then be assigned to 'D' since it is the only number multiplied by '31'.

Since the TIMEX/SINCLAIR allows computed GOTO's a logical can also replace many IF statements. Instead of this:

```

100 IF A<10 THEN GOTO 50
110 IF A=10 THEN GOTO 500
120 IF A>10 THEN GOTO 600

```

the following could be substituted:

```
100 GOTO 50 * (A<10) + 500 * (A=10) + 600 * (A>10)
```

As was implied in the opening statement, this method of coding, as well as being more efficient in execution, also occupies less RAM, allowing you to write longer, more complex programs in much less space.

Originally from the Nov/Dec issue of Computer Astronomy Network, published by Barry D. Malpas.

Contact Barry at 20 Helen Street, Warren, NJ 07060 for subscription information.

From the Hampton Roads T/S User Group newsletter

TS2068 RESET AND INITIALIZATION PROBLEMS WITH SOLUTION

Are you tired of having to use the 2068's ON-OFF power switch to reset the computer? Read on, there is a solution.

Do you have a Larken disk system and also one common AC power switch to turn on your computer, disk drive, disk controller, monitor, and all other peripherals? If you do, you've no doubt experienced the inconvenience of having to shut your computer OFF and then ON again in order to initialize properly. Read on, for there is a solution.

Do you have a 2068 with a wired-in Spectrum ROM and are having some problems with the computer not initializing positively on the Spectrum ROM without having to turn the computer's power OFF & ON a number of times? There is a solution!

The solution is very simple and would cost less than \$6.00 in our lowly Canadian Dollars.

If you have one or all of the above problems---install a RESET push-button (P.B.) and a small 10 mfd. tantalum capacitor and your problems are resolved.

INSTALLATION

The 2068 has an existing circuitry that automatically resets the computer whenever the power switch is turned ON. Fig.1 shows this circuit in a simplified schematic form. The solid lines along with resistor R43 and capacitor C21 are the existing reset circuitry. The dotted lines show the required additional components---the pushbutton (P.B.) to provide the means for manual RESET (whenever you wish) and capacitor CR to provide positive initialization on power up.

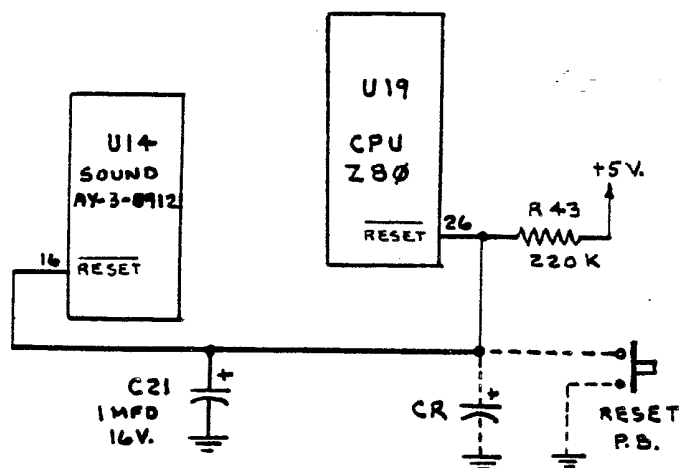
FIG.2 shows the suggested placement of the RESET P.B., capacitor CR and wiring. To install these, you will have to remove the top of computer (containing the keyboard).

Drill a 1/4 inch hole on the rear lip of the portion of the computer and mount a mini P.B. A preferred location is near the monitor jack, but leave sufficient space for convenient push-button finger reset action.

Use color-coded wire (black & red preferred) and solder one end of these wires to the protruding leads of the capacitor C21. Make certain that the red wire is soldered to the +ve lead of C21. Twist the wires and run the wires neatly to the P.B. Connect the wires to the P.B. leads but do not solder. Now connect the 10 MFD. capacitor CR to the respective leads of the push-button, making certain that the +ve lead of the capacitor CR is connected to the push-button lead containing the red wire. If this is correct then solder the wires and capacitor CR to the push-button. This completes the installation.

Have fun!

Charlie Urban
(416) 293 6789



CR = 10 MFD., 16V. Tantalum Capacitor (RS-272-143)

P.B. = Push Button, SPST Momentary, Normally Open (RS-275-1547 or equivalent)

FIG. 1 SCHEMATIC - 2068 RESET CIRCUIT

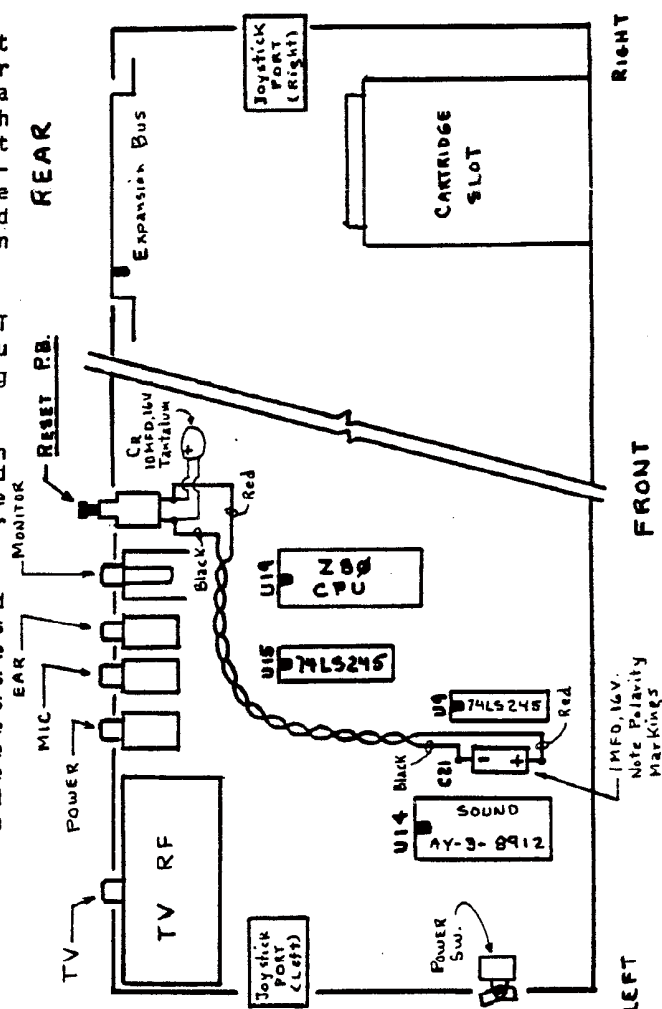


FIG. 2 - 2068 COMPONENT LAYOUT, TOP VIEW

PEEKs AND POKES FOR THE TS1000

by Jim Dodrill

RAND USR 836

To LOAD a program and automatically break into it. Go into FAST, then RAND USR 836, and start your tape.

USR 3086

This scrolls the screen and prints at the same time. 10 PRINT TAB USR 3086 "message"

RAND USR 0

Resets the computer.

POKE 16419,X

This will LIST lines 0 to 255, X being the line you list from to line 255.

POKE 16510,0

This will change the first line to 0. If you have machine code in a REM statement in line 1, this will prevent it from being accidentally erased.

POKE 16418,0

Will allow you to PRINT AT the last two lines.

POKE 16418,2

Use after a PRINT statement to get back into normal mode. Will only work in a program line.

RAND USR 3675

Puts computer into FAST mode

RAND USR 3883

Puts computer into SLOW mode.

RAND USR 3086

Scrolls up one line

RAND USR 2153

COPY's screen to printer.

RAND USR 2602

Clears screen.

From the Sinclair Louisville Users Group newsletter.

A 4-LINE PROGRAM TO SET RAMTOP (ZX81)

by G. Chambers

```
5 INPUT N
10 RAND 1024*(32-N) (or RAND X)
20 POKE 16388, PEEK 16434
30 POKE 16388, PEEK 16435
40 NEW
```

Where N = the number of 1K by which RAMTOP is to be lowered.

As an alternative - Where X = the address at which RAMTOP is to be set.

from Your Computer March 1983

VERIFY

by Chris Taylor

I just got the newsletter, it's great. There is one thing that I noticed: you don't have VERIFY on program printouts. I made a printout verifier and saved it on Side B of the "new member's tape". I also enclose a listing, since the program is so short.

Now let me explain what the program does. Right after you LLIST a program to put it in the newsletter you MERGE "VERIFY" and run it (GOTO 9993). Then COP the results or change line 9999 to LPRINT instead of PRINT, and then RUN 9993. The result is a list of all the line numbers and a code for each. (the code is just the codes of all the characters in the line added up). You then supply the VERIFY codes (with the line numbers) along with the program in the newsletter.

What happens now is, when someone, let's say me keys in a program and it doesn't work due to the fact that I mistyped some small thing. I MERGE "VERIFY" RUN 9993, and by comparing my codes with the codes in the newsletter, I find the difference quickly, and know what line is wrong.

My program works on the 2068 and Spectrum, and I'm sure that it could be adapted for the ZX81.

There is something that you have to watch with "VERIFY", and that is if you use E-mode 0-9, or E-mod Caps 0-9, or TRUE/INV Video, to make things stand out (like REM statements). They don't appear on printout, yet make a difference to the code of the line. If you are going to use "VERIFY" on a program with the above it is better to totally rewrite the line as turning one of them ON and then OFF does not erase the ON marker.

You can test "VERIFY" on itself by changing the last part of line 9995 from IF ln 9992 THEN STO to IF ln 9999 THEN STOP. The proper code for "VERIFY" when the above change is made is below. I think the code for line 9999 is a neat coincidence.

This article comes from one of our very new members in Hamilton. Thank you Chris, and welcome to our club the editor

```
9993 REM VERIFY by Chris Taylor
9994 LET a=PEEK 23635+256*PEEK 23636
9995 LET ln=PEEK (a+1)+256*PEEK a: LET a=a+2: LET co=0: IF ln=9992 THEN STOP
9996 LET a=a+1: LET i=PEEK a: IF i=13 THEN GO TO 9999
9997 IF i=14 THEN LET a=a+5: GO TO 9996
9998 LET co=co+1: GO TO 9996
9999 PRINT ln;"-";co: LET a=a+1: GO TO 9995
```

BOB'S NOTEBOOK

AUG 5 1986

Now that I have my Spectrum Emulator from Zebra Systems (which, by the way, works just fine with the Larten DOS and with Cameron Hayne's Timachine), I'll pass along some of my notes on various spectrum programs that I had lucked away for such an occasion.

The first is a short utility that provides the block DELETE function that we take for granted on the TS2068. Type it in and check the DATA in line 5 for I have included no checksum; save it to tape and then MERGE it with any Spectrum program you are working on. Let it sit there as is and when you need to use DELETE, simply GO TO 3.

The code for this routine is stored in the printer buffer so if you have used the printer at all you must GO TO 3, otherwise GO TO 1 will do.

Here is the program:

SPECTRUM

```
1 INPUT "DELETE" "from line "  
;from;" to line ";to: IF from<5  
OR to>9999 OR from>to THEN GO TO  
1  
2 RANDOMIZE from: POKE 23296,  
PEEK 23670: POKE 23297,PEEK 2367  
1: RANDOMIZE to: POKE 23298,PEEK  
23670: POKE 23299,PEEK 23671: R  
ANDOMIZE USR 23300: STOP  
3 RESTORE 5: FOR i=0 TO 13: R  
EAD value: POKE 23300+i,value: N  
EXT i  
4 GO TO 1  
5 DATA 42,0,91,205,110,25,229  
42,2,91,35,205,110,25,209,205,2  
29,25,201
```

Thanks to Personal Software Magazine Autumn 1985, I have a good ON ERR utility which I pass on to you with some notes.

SPECTRUM

Load the hex code which I show starting at ED00. The code disassembly is shown too.

Save it to tape by:

SAVE "ON ERR"CODE 60672,64
When you load it back, you can put it anywhere you like, say at 50000.

You turn the ON ERR routine on by RANDOMIZE USR nnnn where nnnn is the address you chose. So put a line at the start of your BASIC program:
"RANDOMIZE USR nnnn"

Next, put in a line
LET 23610=255

Finally, make sure there is a line with STOP in it at the end of the program.

I have included a demo listing which you can try. It sets up an array which cannot be stopped until the program ends at line 240 STOP.

Other action can be taken by appropriate BASIC statements, e.g. IF PEEK 23610=14 (invalid file name) then GO TO 120 (input line for file name)

You should get a copy of the above mentioned article to read more about this useful routine.

```
ED00 21 0F 00 00 22 30 5C E8  
ED08 2A 3D 5C 73 23 72 C9 3A  
ED10 3A 5C 3C 28 02 FE 00 CA  
ED18 03 13 21 44 5C C8 7E 28  
ED20 08 3A 47 5C 3C 77 2A 45  
ED28 5C 22 42 5C 21 00 00 7C  
ED30 32 71 5C 22 08 5C 2A 88  
ED38 5C E5 2A 42 5C C3 9E 18
```

```
ED00 210F00 LD HL,000F  
ED03 09 ADD HL,BC  
ED04 22B05C LD (SCB0),HL  
ED07 E5 EX DE,HL  
ED08 2A3D5C LD HL,(SC3D)  
ED0B 73 LD (HL),E  
ED0C 23 INC HL  
ED0D 72 LD (HL),D  
ED0E C9 RET  
ED0F 3A3A5C LD A,(SC3A)  
ED12 3C INC A  
ED13 2302 JR Z,ED17  
ED15 FE09 CP 09  
ED17 CA0313 JP Z,1303  
ED1A 21445C LD HL,SC44  
ED1D C87E BIT 7,(HL)  
ED1F 280B JR Z,ED2C  
ED21 3A475C LD A,(SC47)  
ED24 3C INC A  
ED25 77 LD (HL),A  
ED26 2A455C LD HL,(SC45)  
ED29 22425C LD (SC42),HL  
ED2C 210000 LD HL,0000  
ED2F 7C LD A,H  
ED30 32715C LD (SC71),A  
ED33 22085C LD (SC08),HL  
ED36 2AB05C LD HL,(SCB0)  
ED39 E5 PUSH HL  
ED3A 2A425C LD HL,(SC42)  
ED3D C39E18 JP 189E
```

```
20 RANDOMIZE USR 60672  
30 POKE 23610,255  
40 PRINT "setting up array"  
;try to BREAK in"  
50 DIM a(300)  
60 FOR i=1 TO 300  
70 LET a(i)=1/INT (10+RND)  
90 NEXT i  
240 STOP
```

R.H.Mitchell

RENAME
by Bob Mitchell

One of the utilities missing on the Larken DOS is a Rename feature that would allow the user to change the name assigned to any program. The thought first occurred to me when I wanted to change titles of programs on the LDOS Master Disk which have a mixture of upper and lower case letters. Examples are Remdos, Copy2D, and TapeCP. Once you get used to having the names all in lower case letters, it is much easier to type in the load instructions. So with that thought I proceeded to write a short BASIC program which I present below.

The on-screen prompts will lead you through the routine but here are a few notes by way of explanation.

First: Note that you must remove the write-protect sticker from any disk before you use this program.

The program loads the directory (track 0) into the buffer, asks for the name change information and changes the name in that track. The 'from' name is stored in array y\$ and the actual names in the directory are stored in array x\$ at line 45 one by one until x\$ and y\$ match. The 'to' name is then input as array z\$ and action moves to line 100 where the contents of array z\$ is poked into the buffer and then saved onto the track at line 110.

Line 150 advances the search through the addresses and locates the end of name marker 253.

The job is only half done, for although the name on the directory track has been changed, it is still necessary to change the names on all the affected tracks for that program. So the next stage is to determine the track numbers from the directory. This is accomplished starting at line 170. Variable 'k' is our datum point for peeking addresses on track 0 and has now advanced to the address just after the end of name marker. This will contain the first track number. This number, minus the 128, is stored at the first location in array 'a'. Note variable t=1 from line 15. Variable 't' is incremented and the search goes on until peek (k+1)=249 or end of file marker. Action then proceeds to line 200. Now all the relevant tracks are stored in array 'a' and the remaining unused dimensions are all zeros.

At line 200 't' (for track #) is reset at 1 and location 61441 (current track #) is poked with the contents of array a(1) which is the first track number for that program. Line 210 sets the disk head on track 1, loads the track into the buffer and enables the interrupts. Line 220 pokes the new name into correct locations and then line 255 starts up the disk drive and saves the buffer to the current track.

Line 230 runs through this routine until it meets with a zero in array 'a', whereupon the program advances to line 510 to signal that the program has been renamed from ... to ...

Here's the program:

```
1 REM RENAME      Bob Mitchell
2
3 REM      Remove Protect Tabs
      While using Rename.
4
5 CLS : PRINT "Rename a disk
      program          Insert disk"
7 PRINT "ready?": PAUSE 0
10 DIM x$(9): DIM y$(9): DIM z
$(9): DIM a(79)
15 LET t=1
20 POKE 61000,251: POKE 61001,
201
25 LET ei=61000: LET settrack=
63968: LET loadtrack=61190
26 PRINT #1;"enter ""exit"" wh
en directory""appears."
27 OUT 84,64: RANDOMIZE USR 63
488: REM dire
30 INPUT "change name from ";
LINE y$
40 FOR i=61600 TO 63440
45 IF PEEK i=255 THEN LET k=i
+1: FOR j=1 TO 9: LET x$(j)=CHR
$(j): PEEK (i+j): NEXT j: IF x$=y$
THEN INPUT "change name to ";
LINE z$: GO TO 100
50 NEXT i
100 FOR i=1 TO 9: POKE k,CODE z
$(i): LET k=k+1: NEXT i
110 OUT 84,72: PAUSE 40: RANDOM
IZE USR 64915
150 IF PEEK k<>253 THEN LET k=
k+1: GO TO 150
155 GO TO 170
160 IF PEEK (k+1)=249 OR t>79 T
HEN GO TO 200
170 LET k=k+1: IF PEEK k>128 AN
D PEEK k<208 THEN LET a(t)=PEE
K k: LET a(t)=a(t)-128
180 LET t=t+1: GO TO 160
200 LET t=1
205 POKE 61441,a(t)
210 RANDOMIZE USR settrack: RAN
DOMIZE USR loadtrack: RANDOMIZE
USR ei
220 FOR l=1 TO 9: POKE 61505+l,
CODE z$(l): NEXT l
225 OUT 84,72: PAUSE 40: RANDOM
IZE USR 64915
230 LET t=t+1: IF a(t)=0 THEN
GO TO 205
500
510 CLS : PRINT PAPER 2; INK 7
;"Program has been renamed ""
"from ";y$;" to ";z$
520 STOP
600 CLEAR 61000: OUT 84,64: RAN
DOMIZE USR 63488: REM save "ren
ame.B1"
603 CLS : GO TO 1
```

Disk Droppings by Greg Lloyd

I have recently added a 80 column printer to my 2068 system. Radio Shack's DMP 105 printer was my choice. With a Tasman Interface and it's software, I can print large and small whenever I wish.

The printer has expanded, elite, normal, and condensed modes. This gives 40, 80, 120, and 160 characters to the line. It can underline and when you turn on the bold printing, it's perty near almost close to decent quality. It's good enough for me, anyway.

The system, when set up, works well with any paper from 4 to 9.5 inches wide. I can use the tractor or friction feed and I can always get ribbons at my local Radio Shack store. It's a basic machine, just an OFF-ON switch, an ONLINE-OFFLINE switch and a paper advance knob. It's kind of a big 2040 printer, only not thermal. The system works very well and I never knew that my computer could be so useful with a real printer.

Now with my Larken Disc, a 2050 modem, Tasword II on disk and my full size printer, I may start desk-top publishing. It has given new meaning to the question, HOW LONG HAS THIS BEEN GOING ON, eh IAN?

The software that comes with the interface allows screen dumps and supports the LPRINT and LLIST commands. My only comment here is that Tasman likes Epson compatibles, Radio Shack has never heard of Epson, or any other printer standard. Radio shack has always been known for it's independence and general "I'm all right pardner!" attitude. They have their own codes for everything. This printer can indeed do graphics and several pages of the excellent manual are devoted to graphics. My problem is that direct commands such as LPRINT CHR\$(27); CHR\$(15); DON'T SEEM TO HAVE ANY EFFECT. Setting the printer up through the Tasman Tasintbas program appears to be the only way to get the beast to become GRAPHIC! My experiments will continue in search of the correct code to unlock those graphic delights.

Bye Bye Sir Clive

I must say that the demise of Sinclair as a name on computers has had no effect on me. When people ask me if I own a computer, I would say yes, it's a Timex-St.Clair(sic). Then I would be questioned about how a watch company and a paint and wallpaper company could possibly make computers? My reply would always be that given the right amount of wallpaper paste, silver paint and high quality watch parts, anyone could make a computer. Now I just tell people I collect antique computers (anything 18 months old or more), and that's that.

Cheap Disks

I recently purchased a bag of ten 5 1/4 disks at a low price \$10.95 for Single sided double density. I smugly thought this was good but, Ian Robertson told

me he purchased several disks at \$9.99 which he formatted as Quad density. Ian can be smug now; that is outstanding. The Larken system doesn't pack the data on the disk (160K), so if you can format a Single sided disk, you can fly with it.

Fast Programming

Now that I have decided to switch to Tasword II for all my wordsmithing, I discovered a quirk in the program. The files you load into the workspace cannot have any characters less than ASCII 32, a blank space. If you do load a file from any other word processor you get weird gremlins (Carriage Return and Line Feeds) ASCII 13 and ASCII 10 all over the screen. The solution is to filter the file before you load it into the workspace. I wrote a few lines of code to do the filter routine as follows:

```
10 let i=33280
20 if peek (i) 32 then poke (i),32:let i=i+1:
   poke (i),32: goto 20
30 if i 52480 then stop
40 let i=i+1:goto 20
```

-Line 20 finds any character less than a space and replaces it with a space. It also gets the slot following. This eliminates the Cr/Lf pair at the end of each line.

This took 10 minutes to run, but it worked. I then thought of a way to shorten the time.

```
10 let i=33280
20 for k=0 to 19199
30 if peek (i+k) 32 then poke (i+k),32:
   poke (i+k+1) ,32
40 next k
```

-There's no substitute for a good old for/next loop. This took 2 minutes and then I compiled the program with TIMACHINE, the Cameron Hayne Basic Compiler. It took 1 second to run. Warp 10 Mr.Scott ! is the only way I can describe the TIMACHINE. It's the best bargain on the 2068 Software list for me. Buy a copy as soon as you can to speed your basic into FAST mode.

8/19/86

TS2068 - BREAKING OUT OF A CLOSED INPUT LOOP

By George Chambers

Some programs prevent you from stopping it at the INPUT stage by using the LINE function.

Try this:

```
10 INPUT LINE A$:PRINT AT 0,0: A$: GOTO 10
```

You will find that it is nearly impossible to break this program. However by pressing CAPS SHIFT and Key 6 at the same time the program will stop with an "H STOP IN INPUT" report.

Very useful if you get into a closed input loop.

TELECOMMUNICATIONS
Hints and Tips

The following tips are from Randy and Lucy Gordon of the Timex/Sinclair Users Group, Cincinnati, Ohio. Randy and Lucy are the creators of TINYBOARD, a BBS for the TS2068. These notes and more are also to be found in the "Best of SUM", a compilation of articles from the S.U.M. newsletter.

The "Best of SUM" is a compilation of the better articles from the SUM newsletter. It is available from the SUM Magazine, 3224 NW 30th Ave., Gainesville, Florida 32605 and costs \$11.95 US. A good buy as you can see from perusing this article.

To get a file from a BBS you first need to set your CONVERSION to NONE. Toggle your Buffer to OPEN. Take in a file, then close your buffer. Next, escape to BASIC. The file should be saved like a normal BASIC program with SAVE "filename". You will need the modem software to read this file later.

To view the file that you have just saved to tape you must first load the terminal software, escape to BASIC and LOAD "filename". Enter PRINT USR 54016. This will return you to the terminal program with Buffer loaded. You must go to the Data Buffer menu to view or print the file. In view mode the space bar toggles the scrolling (on/off).

To receive a BASIC file from another Sinclair user you must both be in the HEX CONVERSION. Normal system setup (you may want to go to half duplex). Close the Buffer, escape to BASIC, and SAVE "filename". NOTE: Anything after VARS isn't transmitted (Buffer END = VARS). This means that any invisible variables are lost unless VARS is "moved" to accomodate the program variable stack. You must POKE VARS, E-LINE. To do this you must PRINT PEEK 23641 + 256 * PEEK 23642 (E-LINE), take the value and POKE it to 23627/23628 (VARS). You can call programs back into the computer like any other BASIC file with LOAD "".

To send a BASIC file first make sure it will fit in your Buffer. If you CLEAR you will get "OUT OF MEMORY" error if the file is larger than the Buffer area (26710-54016), give or take a few bytes. Get into the terminal mode, and then go to the Data Buffer menu. Press T for Transmit. At the bottom of the screen the menu Prompt screen will appear; press ENTER. Next, Character Delay will appear; again press ENTER. Press Enter again to take you to the Main menu. Press ENTER one more time to begin Transmission. If you are in Half Duplex you will see what you are sending echo back to your screen. When XMIT is finished you may do normal pick-up.

To receive a machine code listing the set up is the same as the BASIC file, except when you escape to SAVE

to tape. The BASIC editor will appear as though it has "crashed". (INVALID COLOR or NONSENSE IN BASIC. etc.). Ignore this garbage and SAVE "filename" CODE 26710, (the number of bytes in the Buffer). Then you must Load it back into the computer with LOAD "filename" CODE (proper or normal address), (number of bytes).

To send a machine code program to another Sinclair user you must first POKE VARS, (53016) to leave room for BASIC overhead. POKE 23627,24: POKE 23628,207. This gives a large Buffer to load BASIC in. Then you LOAD "machine code" CODE 26710: PRINT USR 54016. You must be in HEX CONVERSION. XMIT same as any other file.

If by chance you can't get the dialtone of your phone back, a 2050 modem relay may be stuck open. Go to the main menu, press "E" to exit to BASIC, and enter as a direct command OUT 119,0.

Some bulletin boards will not accept a CTRL-R or CTRL-T to open/close the buffer remotely. An alternative is to enter CTRL-S to stop transmission, then return to the Buffer menu and toggle the Buffer open or closed as required.

MTERM patches for both TASMAN and AERGO parallel print interfaces are available for download from the Timex Bulletin Board on Zebra Systems. PHONE: (718) 296 2229.

One method of fixing all keyboard entries to upper case is to go to XLATE table "K" and change all lower case to upper case. These values can also be saved.

The Bulletin Board SYSOP can read all your messages, even private ones. If you still want more privacy, how about sending cyphertext or cryptogram messages? The SMART II XLATE tables facilitate encyphering a message, and the recipient to decypher it (providing they have the key algorithm). The following elementary example illustrates the principle involved:

Rotate the alphabet counter-clockwise by three letters, so that A=D, B=E, C=F, ..., X=A, Y=B, etc. Where = denotes "replacing by" as in BASIC programming.

If you send the plaintext message TIMEX IS GREAT the cyphertext would be WLPFA LV JUHDW

To do this, change XLATE table to "K" so all keyboard entries will then be sent in ciphertext. The recipient can read the encrypted message by going to the XLATE table "I" and changing it to the reverse, i. e., D=A, E=B, etc.

The Sinclair BASIC commands IN and OUT operate by port command assignments (e.g. the assignments for the 2050 modem are 119 and 115 decimal). Using these commands you can program the 2068 in BASIC to Autodial/Autoanswer through the 2050 modem. Using the same procedure, you can program to redial, dial a sequence of phone numbers, etc. The following list of OUT command meanings is for your reference:

OUT 119,0 - Hang up phone.
 OUT 119,1 - Stop Carrier tone,
 do not hang up phone.
 OUT 119,2 - Start carrier tone.
 OUT 119,3 - Open modem relay contacts.
 OUT 119,4 - Close modem relay contacts.
 OUT 119,31 - Take phone off-hook for Dialtone.
 OUT 119,34 - Start carrier tone.

A typical application is programming a 5-cycle loop containing OUT 119,3 and OUT 119,4 in sequence. This would be the equivalent of dialling the number 5.

FOR SALE

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MURPHY'S LAWS OF COMPUTING

You always find the information you need on the page you look at last.

The first place to look for information is in the section of the manual where you least expect to find it.

You know you have a real crisis on your hands when you can't say "Let's forget the whole thing".

The time it takes to fix the error in your spreadsheet is inversely proportional to the time it took to do the damage in the first place.

When the going gets tough, upgrade.

For every action there is an equal and opposite malfunction.

In technology, anything is possible if you don't know it isn't available yet.

To err is human...to blame your computer for your mistakes is even more human.

He who laughs last probably made a back-up.

If at first you don't succeed blame your computer.

That which cannot be serviced will require the most service.

Postmaster, if Undelivered Return to :

Toronto Timex - Sinclair Users Club
 P. O. Box 7274 Stn. A
 Toronto, Ont., M5W 1X9
 Canada



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